CLAIMS:

1- A method to achieve MHC-class II mediated immunomodulation in a mammal in need of such treatment, which comprises administering to the mammal at least one statin, or a functionally or structurally equivalent molecule, in an amount effective to modulate MHC class II expression in the mammal.

2- A method to achieve MHC-class II mediated immunosuppression in a mammal in need of such treatment, which comprises administering to the mammal at least one statin, or a functionally or structurally equivalent molecule, in an amount effective to suppress MHC class II expression in the mammal.

3- A method to achieve MHC-class II mediated anti-inflammatory effect in a mammal in need of such treatment, which comprises administering to the mammal at least one statin, or a functionally or structurally equivalent molecule, in an amount effective to suppress MHC class II expression in the mammal.

4- The method of claims 1, 2 or 3, wherein said mammal is a human.

5- The method of claims 1, 2 or 3, wherein said mammal does not suffer from hypercholesterolaemia.

6- The method of claims 1, 2 or 3, wherein said amount is effective to specifically modulate IFN-γ inducible MHC class II expression.

7- The method of claims 1, 2 or 3, wherein said mammal is suffering from a condition which involves IFN-γ inducible CIITA expression.

8- The method of claims 1, 2 or 3, wherein said mammal is suffering from a condition which is an autoimmune disease.

9- The method of claim 8, wherein said autoimmune disease is type I diabetes, multiple sclerosis or rheumatoid arthritis.

10- The method of claims 1, 2 or 3, wherein said mammal is under treatment in preparation of or after an organ or tissue transplantation.

11- The method of claims 1, 2 or 3, wherein said mammal is suffering from a condition which is psoriasis or inflammation.

12- The method of claim 3, wherein said mammal is suffering from a dermatological condition and said statin is used in a topical application.

13- The method of claims 1, 2 or 3, wherein said statin is Compactin, Atorvastatin, Lovastatin, Pravastatin, Fluvastatin, Mevastatin, Cerivastatin, or Simvastatin.

14- The method of claims 1, 2 or 3, wherein said statin, or said functionally or structurally equivalent molecule, has no lipid-lowering effect.

15- The method of claims 1, 2 or 3, wherein the statin, or a functionally or structurally equivalent molecule, is administered in the absence of any other immunosuppressive agents.

16- The method of claims 1, 2 or 3, wherein said amount is comprised between 10 and 80 mg per day.

17- The method of claims 1, 2 or 3, wherein said amount is comprised between 20 and 40 mg per day.

18- The method of claims 1, 2 or 3, wherein said administration comprises intralesional, intraperitoneal, intramuscular or intravenous injection; infusion; or topical, nasal, oral, ocular or otic delivery.

19- The method of claims 1, 2 or 3, wherein said administration is made daily.

20- The method of claim 2 or 3, wherein the immunosuppression or anti-inflammatory effect is the result of repression of T lymphocyte activation.

21- A process for regulating IFN-γ-induced CIITA expression, and CIITA-dependant inter- or intra-cellular events, said process comprising the step of contacting an IFN-γ responsive cell with at least one statin or at least one functionally or structurally equivalent molecule.

22- The process according to claim 21, wherein said contacting is carried out *in vivo* or *in vitro*.

23- The process according to claim 21, wherein said statins are Compactin, Atorvastatin, Lovastatin, Pravastatin, Fluvastatin, Mevastatin, Cerivastatin or Simvastatin.

24- The process according to claim 21, wherein said IFN-γ responsive cell is a cell which has the capacity to become MHC-II positive on induction by IFN-γ.

25- The process according to claim 24, wherein said cell is a primary human endothelial cell, a primary human smooth muscle cell, a fibroblast, a monocyte-macrophage, a cell of the central nervous system, a ThP1 cell, a melanoma cell or a Hela cell.

26- The process according to claim 21, wherein the regulation of IFN-γ-induced CIITA expression is an inhibition of this expression.

27- The process according to claim 21, wherein the regulation of IFN-γ-induced CIITA expression is solely achieved by inhibition of the CIITA inducible promoter IV.

28- The process according to claim 21, wherein said intracellular events comprise induction of MHC-II expression by IFN-γ.

29- The process according to claim 28, wherein the regulation of CIITA expression generates a quantitative regulation of MHC-II expression.

30- The process according to claim 21, wherein said intercellular events comprise MHC-II-mediated T cell activation and proliferation.

31- The process according to claim 21, wherein said regulation can be reversed by addition of L-mevalonate.

32- The process according to claim 21, wherein said regulation of CIITA expression by said inhibitor is dose dependant.

33- A method for identifying molecules that inhibit IFN-γ induced CIITA expression, said inhibition being at least partially reversible by addition of L-mevalonate, comprising the steps of:

-contacting a cell which is IFN-γ responsive with a candidate inhibitory molecule and with IFN-γ;

-detecting the inhibition or absence of MHC class II expression in the presence of the candidate molecule;

-further contacting the cell with L-mevalonate; and

-detecting a total or partial reversal of the inhibitory effect.

34- A method for identifying molecules that inhibit IFN-γ induced CIITA expression, comprising the steps of:

-contacting a cell which is IFN-γ responsive with a statin, or a functional or structural equivalent thereof, and with IFN-γ;

-detecting the inhibition or absence of MHC class II expression in the presence of the statin, or the functional or structural equivalent thereof.

35- A method of treating a patient afflicted with an autoimmune disease, comprising administering to said patient a compound that inhibits 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA reductase) in an amount effective to treat said disease.

36- The method of claim 35 wherein said compound has a therapeutically insignificant lipid-lowering effect and suppresses MHC Class II expression.

37- A method of treating a patient suffering from an autoimmune disease or condition comprising:

administering to said patient at least one compound, capable of measurable HMG-CoA reductase inhibition and inhibition of MHC Class II expression in said patient, in an amount effective to treat such autoimmune disease or condition.

38- A method of treating a patient in preparation for or after an organ tissue transplant comprising:

administering to said patient at least one compound capable of measurable HMG-CoA reductase inhibition and inhibition of MHC Class II expression in said patient, in an amount which is effective to prevent tissue rejection.

39- A method of preventing or treating tissue or organ rejection in a patient comprising administering to said patient a compound that inhibits 3-hydroxy-3-methylglutaryl coenzyme A reductase (HMG-CoA reductase) in an amount effective to prevent or treat tissue or organ rejection.